

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
9 June 2005 (09.06.2005)

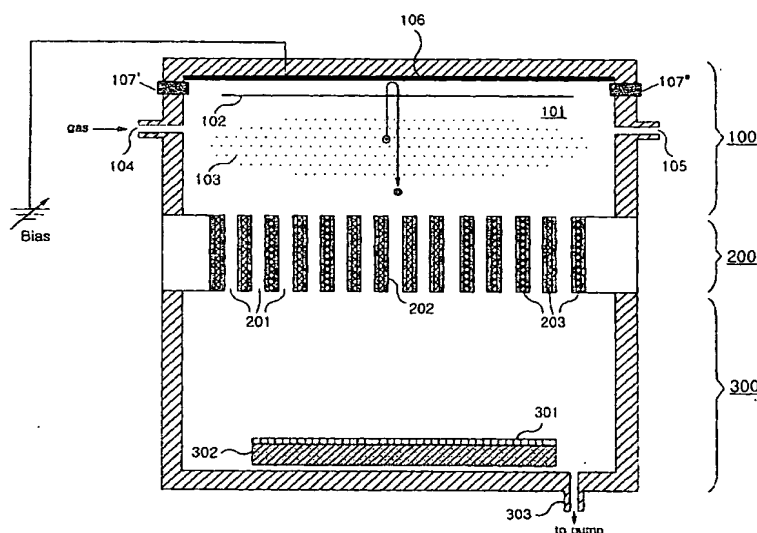
PCT

(10) International Publication Number
WO 2005/053365 A1

- (51) International Patent Classification⁷: **H05H 3/06**
- (21) International Application Number:
PCT/KR2004/003099
- (22) International Filing Date:
27 November 2004 (27.11.2004)
- (25) Filing Language: Korean
- (26) Publication Language: English
- (30) Priority Data:
10-2003-0084946
27 November 2003 (27.11.2003) KR
- (71) Applicant (for all designated States except US): **SEM TECHNOLOGY CO., LTD** [KR/KR]; 5th Floor, Dongkoong Town Bldg., 91-2, Chongdam-dong, Kangnam-ku, Seoul 135-100 (KR).
- (71) Applicant and
(72) Inventor: **LEE, Hag-Joo** [KR/KR]; #104-507, Hyundai Apartment, Dohwa 1-dong, Mapo-ku, Seoul 121-041 (KR).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): **LEE, Bong-Ju** [KR/KR]; Korea Basic Science Institute, #103-403 Hyundai Apartment, Doryong-dong, Yuseong-ku, Taejeon-si 305-340 (KR). **YOO, Suk-Jae** [KR/KR]; #303-1601 Expo Apartment, Junmin-dong, Yuseong-ku, Taejeon-si 305-761 (KR).
- (74) Agent: **KIM, Jin-Hak**; #1106, Kumsan Bldg., 17-1, Youido-dong, Youngdeungpo-ku, Seoul 150-727 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: **NEUTRAL PARTICLE BEAM PROCESSING APPARATUS**



(57) Abstract: The present invention relates to a neutral particle beam processing apparatus. More specifically, the present invention relates to a neutral particle beam processing apparatus comprising a plasma discharging space inside which processing gases are converted to plasma ions through a plasma discharge, a heavy metal plate which converts the plasma ions into neutral particles through collisions, a plasma limiter which prevents plasma ions and electrons from passing through and allows the neutral particles produced by collisions of the plasma ions with the heavy metal plate to pass through, and a treating housing inside which a substrate to be treated is located, wherein the plasma discharging space is sandwiched between the heavy metal plate and the plasma limiter.

WO 2005/053365 A1



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*